ABSTRACT OF THE DISCLOSURE

A brake system is provided with a brake pressure control device which is light in weight and low in cost and which is capable of selectively performing a brake assist control and a slope starting control. An electromagnetic pressure control valve for generating a control differential pressure is connected between a master cylinder and wheel cylinders, and the control differential pressure is set to an assist increase pressure under the brake assist control. A brake fluid supply device such as a motor-driven pump is operated in the brake pressure control device to supply brake fluid between the electromagnetic pressure control valve and each of the wheel cylinders. The fluid pressure applied to the wheel cylinders is increased by the assist increase pressure than the fluid pressure delivered from the master cylinder, so that a large brake force is applied to road wheels. On the other hand, the brake fluid supply device is also operated under the brake assist control. Thus, even when the release of a brake pedal causes the master cylinder to deliver the fluid of zero-pressure, the stop holding pressure remains closed in each wheel cylinder, so that the road wheels are kept stopped with the brake forces applied thereon.